To: Steve Vandegrift/ADA/USEPA/US@EPA[]
From: David Gratson <dgratson@neptuneinc.org
Sent: Wed 7/11/2012 9:52:44 PM
Subject: Fwd: General Questions
COC_JOB 17997_rec'd 4-18 & 4-19.pdf
COC_JOB 18029_rec'd 4-24-12.pdf
COC_JOB 18047_rec'd 4-26-12.pdf
COC_JOB 18101_rec'd 5-2-12.pdf
steve@isotechlabs.com
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FYI from Isotech

---------- Forwarded message ----------
From: Pelphrey, Steven R <steve@isotechlabs.com>
Date: Wed, Jul 11, 2012 at 3:17 PM
Subject: RE: General Questions
To: David Gratson <dgratson@neptuneinc.org>

Hi Dave,

I have a few answers for you:

The NIST date is simply the date that the standard was prepared for analysis. The Count date is just that, the date the NIST standard was counted. You may note that we counted the one prepared on April 25th twice, because there was only 11 days elapsed time from then until the 2nd count date on May 6th.

The values we measure are specific to the instrument we use, and these values are used for calibration. So in those terms, we do not verify the accuracy of these measurements, but rather we know the value of the NIST standard, and we use that info along with the measured counts to calibrate the LSC. In this table, what we want to see is stability in the measured values, to confirm that the instrument remains stable (within 1 sigma limits). The values are cpm/g which are specific to each instrument, so if you had data from all 3 of our scintillation counters, these values would be very different.

We document the cell calibrations. Ideally we try to calibrate twice a year, which is where the 6 months came from, but we cannot always do that depending on workload. Sometimes it may be 8 or 9 months between calibrations, but we do them all at least once per year.

COC's are attached…

Our corrective action on 2H of methane is at 4 permil. If differences are greater than that, we re-analyze the sample. However, for this EPA work, Christy tells me we are working at a 3 permil action limit, so based on that criteria we should re-analyze the sample.

Let me know if you have any other questions.

Thank you,

Steve

Steve Pelphrey
General Manager
Isotech Laboratories, Inc
1308 Parkland Court
Champaign, IL 61821
217-398-3490

From: David Gratson [mailto:dgratson@neptuneinc.org]
Sent: Tuesday, July 10, 2012 2:21 PM
To: Pelphrey, Steven R
Subject: General Questions

Hi Steve,

thanks for going through those questions with me.

Here is the tritium data. My question is, how do I know that the accuracy of the NIST value, and that it is within 1 sigma limits of your existing data? I.e. how do I verify the accuracy of what you are getting from the NIST counts? When the enrichment cells are calibrated (every 6 months from you QAP), do you document this?

Is it possible to get the Chain-of-Custody pdf for these four job numbers? Let me know if I should have Rick Wilkins request that information: 17997, 18209, 18047, 18101

JOB #
NIST date
count date
Value
+/-
SD
AVG NIST :

(TU/cpm/g)

1-Mar
6-Mar
435.63
+/-
2.62
435.63
+/-
2.62

9-Mar
17-Mar
433.67
+/-
2.61
434.65
+/-
2.61

20-Mar
28-Mar
436.85
+/-
2.65
435.39
+/-
2.62

20-Mar
7-Apr
439.67
+/-
2.68
436.46
+/-
2.64

12-Apr
16-Apr

435.82
+/-
2.21
436.33
+/-
2.55

25-Apr
29-Apr
437.55
+/-
2.64
436.53
+/-
2.57

"
6-May
437.99
+/-
2.65
436.74
+/-
2.58

2-May
10-May
433.83
+/-
2.62
436.38
+/-
2.59

18047 EPA

15-May
20-May
439.17
+/-
2.85
436.69
+/-
2.61

18101 EPA

1 other question, associated with C and H isotopes of dissolved methane. If your duplicate analysis exceeds 3 per mil for 2δH is there action taken at the lab? See Job Number 17997, sample EPAMW02-0412-1 for example.

Thank you again,

Dave

--
David Gratson, CEAC

Environmental Chemist
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1505 15th St..Suite B
Los Alamos, NM 87544

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"Nature holds the key to our aesthetic, intellectual, cognitive and even spiritual satisfaction." E. O. Wilson.

--
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